

WARM AIR 18 Jan 20

Aviation Sports Club Gliding Newsletter

THIS WEEKEND:	Club Cellphone 022 357 6731	www.ascgliding.org
Saturday	Instructing: Peter Thorpe Towing: Derry Belcher Duty Pilot: Tony Prentice	Bank Acct 38-9014-0625483-000
Sunday	Instructing: Steve Wallace Towing: Rex Carswell Duty Pilot: Roy Whitby	

MEMBERS NEWS

Welcome back everyone Happy New Year to you all.

THIS COMING WEEKEND

We are not sure we will have a towplane this weekend but we will confirm that later in the week.

CHRISTINA CAME BACK

Many members will remember Christina Keil from a few years back. She visited NZ from Germany as part of her studies and came to fly with us over the summer. This summer she came back with her fiancee Fabian who is a gliding instructor. At fairly short notice we were able to organise a get together at Little creatures down on the Hobsonville waterfront. It was very nice to catch up again.



Where is GBU? Ray Burns has the story

At last year's annuals we discovered a problem with the trailing edge ribs.

The first job was to cut some holes in the fabric so we could take a look:

Then we decided we needed a bigger hole:



This picture shows what the inside of the wing looks like.

About a third of the fabric (which is about $\frac{3}{4}$ of the wing - the remaining bit being all aileron) is exposed in this photo.



This picture is taken from the opposite direction.
It is the glue at the end of these little cross-members that has started to fail.
Just a gentle wiggle of the piece of wood will result in it coming off.

Thankfully all the wood is sound, the problem is that the glue used to construct them has dried out and started to fail. This is a different glue that was used for all the other major parts of the glider.

There are 26 ribs in the wing and they are made of 4mm square lengths of wood.

The first part of the job was to remove all the fabric and re-glue all of these little bits of wood. They range in length from about 150 mm down to about 25mm. This part of the job was really dead easy. One rib at a time we wiggled away the bits of wood, cleaned all the old glue off and then re-glued them. We did one and when we got the approval of the all-seeing LAME off we went and re-glued the rest.



After each wing the all-seeing LAME inspected, injected, detected and reflected and then let us carry on with next step:

Which was re-covering. The process here is a bit more involved. Firstly: off to see Lianne at aviation parts in Albany and buy the stuff. We needed about 8 metres of cloth. It is called Ceconite. And not too expensive. About \$180 for the fabric. Then we needed glue to attach it and some dope and some paint. The glue and dope is about \$1300 so mite more expensive. This fabric is aviation approved (like everything else) and because it is not the original fabric it has something called a "Supplementary Type Certificate" (STC). To conform to the STC you must apply the glues and dopes exactly as laid out in the manual (that we downloaded from the site).

The first step is applying lashings of glue to the wood and sticking the fabric down. Once again, the all-seeing LAME came and helped us do the first side. It's a bit more of a job as it takes us about 6 hours, and once started, we cannot stop until it is complete. We leave the glue to dry overnight. Then there are fiddly bits - gluing around the brake boxes and the edges. The trailing edge and the 200 mm nearest the fuselage are particularly finnicky because it has quite a curve (see the pictures above).

Ceconite shrinks when it heats up, so a light iron (being VERY careful to check the iron temperature with our spanky-new infrared thermometer) shrinks the fabric onto the frame and it gives it that drum-skin tautness. We made a test piece very early on (before anything went near the airframe) and it was at that point that we discovered that the Ceconite manual is a little light when it comes to units of measure. Being American, it does not bother to mention that the temperatures are in Fahrenheit and not Celsius. When you are talking about 220 degrees, mixing these up has significant consequences!

The underside is done first and because it is slightly concave, we need to stitch the fabric to the ribs. First some self-adhesive strips are glued on over the fabric in line with the ribs and then some holes made (about 60mm apart) and then the stitching begins:

Special knots are required on each stitch and this took some mastering. You-tube came to the rescue and Andrew was off stitching while I visited a client in Invercargill for a couple of weeks.

Once the first side was complete the all-seeing LAME let us get on with the other side. Much the same as the first, but at the end of completing the second side a series of 2 inch wide re-enforcing tapes are added. These lay over the ribs (hiding the stitching) and then a long tape is applied along the leading and trailing edges.

The all-seeing LAME then came back and inspected, detected, reflected (but thankfully not "rejected") once more.

On went the first coat of dope. There are about 9 coats of two different types of dope. The first is brushed on and the remaining are sprayed. The all-seeing LAME helped us put the first coat on and then left it to us. In-between some



of the coats a light sanding is done.



The first coat is a particularly attractive green. The second dope is a far more interesting silver:

So where are we at?

The first wing is now complete and awaiting final painting. The second wing is up to the covering stage. At the time of writing the bottom fabric is on and the rib-stitching is half done. Today we will complete the rib stitching and await the all-seeing LAME prior to putting on the top covering of fabric. Then it will be back to waiting for low humidity to align with Andrew's spare time to apply the dope.

We are hoping to have the second wing complete by the end of January and then we will await paint. The paint is mixed to order (in America) and then shipped. We ordered it at the beginning of December and are hoping to have it in our hot little hands by late Feb early March.



Duty Roster For Jan, Feb, Mar 20

Month	Date	Duty Pilot	Instructor	Tow Pilot	Notes
Jan	18	T PRENTICE	P THORPE	D BELCHER	
	19	R WHITBY	S WALLACE	R CARSWELL	
	25	I BURR	L PAGE	P THORPE	
	26	C DICKSON	I WOODFIELD	R HEYNIKE	
	27	K JASICA	R BURNS	D BELCHER	
Feb	1	J DICKSON	R BURNS	G LAKE	
	2	B MOORE	R CARSWELL	P THORPE	
	6	S HAY	P THORPE	R CARSWELL	
	8	K BHASHYAM	L PAGE	F MCKENZIE	
	9	G LEYLAND	I WOODFIELD	D BELCHER	
	15	I O'KEEFE	R BURNS	A WILLIAMS	
	16	M MORAN	R CARSWELL	R HEYNIKE	
	22	T O'ROURKE	A FLETCHER	G LAKE	
	23	R BAGCHI	P THORPE	R CARSWELL	
	29	T PRENTICE	S WALLACE	P THORPE	
Mar	1	R WHITBY	L PAGE	D BELCHER	
	7	I BURR	I WOODFIELD	G LAKE	
	8	C DICKSON	R BURNS	P THORPE	
	14	K JASICA	R CARSWELL	D BELCHER	
	15	J DICKSON	A FLETCHER	G LAKE	
	21	B MOORE	S WALLACE	R HEYNIKE	
	22	S HAY	I WOODFIELD	R CARSWELL	
	28	K BHASHYAM	P THORPE	F MCKENZIE	